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FOREST PLANTING LEAFLET.

RUSSIAN MULBERRY (Morus alba tatarica).

FORM AND SIZE.

The characteristic form of the Russian mulberry is low and bushy. When grown in the open very little of the trunk is free from branches, and even when grown in a close-spaced plantation severe pruning is required to produce a straight undivided trunk. On good soil the Russian mulberry usually attains a size of 30 or 40 feet in height and 1 foot in diameter.

RANGE.

The Russian mulberry is a hardy variety of the Asiatic white mulberry. It was introduced into the United States by the Russian Mennonites about 1875, and was subsequently distributed widely throughout the middle Western States. The range for its economic planting is southern Nebraska, southern Iowa, Kansas, Oklahoma, and Indian Territory. It can not endure the severe winters of the Dakotas; the leading shoots are occasionally frozen back in Kansas. Where it has escaped from cultivation it occurs with the oaks and maples, preferring the bottom to the upland.

HABITS AND GROWTH.

The Russian mulberry will grow both on sandy and on clay soils, but does best on rich loam where the water table is from 10 to 15 feet below the surface. It will endure almost any amount of drought

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and neglect. Even in dry situations growth is fairly rapid. These qualities adapt it both to upland and valley situations in the semi-arid regions. It is decidedly tolerant of shade, and can therefore be used to advantage for under-planting or for mixing with a more rapid-growing species to increase the height growth and to induce natural pruning of the latter.

Height and diameter growth are fairly rapid. On very favorable sites a height of 20 feet and a diameter of 8 inches are not unusual for a tree 10 years old.

The tree has comparatively few enemies. It is not in any degree susceptible to the attacks of fungi, but the foliage is sometimes attacked by defoliating insects.

ECONOMIC USES.

The Russian mulberry serves a number of useful purposes. If close-planted and severely pruned, the Russian mulberry is useful for the production of posts and fuel. On favorable sites it will produce fence posts in from ten to fifteen years. The wood is rather heavy, elastic, coarse-grained, and moderately strong. It splits easily and, when seasoned, makes a durable fence post, which is probably its most valuable use. The fuel value of the wood is high.

While the fruit is of an inferior quality, it is much used for domestic purposes in the absence of better kinds. Many horticulturists have established mulberry windbreaks around their orchards. The natural form of the tree makes it well suited to form a low, dense windbreak, if left unpruned. The windbreak, aside from its protective value, furnishes food greatly relished by birds, and they are thus less likely to eat more valuable fruit in the orchard.

In addition, the leaves of the Russian mulberry form an excellent food for silkworms (*Bombyx mori*), and is somewhat used for this purpose in the more northerly portions of the United States, where the broader-leafed varieties of mulberry are apt to be winterkilled. The quality of the leaf for feeding purposes is fully as good as that of the broad-leafed varieties, but its much divided form makes the labor of feeding somewhat greater. The Bureau of Entomology has been for several years past distributing mulberry seedlings in connection with silk-culture investigations.

PROPAGATION.

Reproduction of the Russian mulberry takes place both by stump sprouts and by seed. Renewal after cutting is a simple matter; all that is necessary is to remove the surplus sprouts and give the best one a chance to develop. A quick-growing stump sprout will have better form than the original tree. Plantations can be started from

cuttings, but propagation from seed is easier and produces better plants.

Fruit is borne abundantly. The seed may be separated by crushing and washing the berries. After drying, the seed should be kept in a cool, dry place until a week or ten days previous to sowing. The seed may be sown as soon as it ripens, but generally the better practice is to wait until the following spring, so that the seedlings will have an entire season in which to grow before the coming of cold weather. The seed should be sown in fresh, fertile soil, and covered not more than one-half inch. About one to two weeks are required for germination. Better results are obtained by mixing the seed with moist sand and keeping the mixture in a warm place until germination begins. The sand and seed can then be sown together on a well-prepared bed. The bed should be covered with one-eighth inch of sifted loam. The growth during the first season will be enough to bring the trees to proper size for transplanting to the permanent site the following spring.

PLANTING.

The Russian mulberry should be spaced close in a plantation, in order to overcome, as much as possible, its inherent tendency to branched and crooked growth. For windbreaks, consisting of one or two rows, the trees may be planted at 2 or 3 foot intervals, and in plantations they may be spaced 4 by 4 feet or 4 by 6 feet. The Russian mulberry is found more often in mixed than in pure plantations. Its ability to thrive under partial shade makes it well suited for planting with light-demanding species, such as black locust, honey locust, black walnut, and green ash.

CULTIVATION AND CARE.

Cultivation should be thorough and continued until the ground is rather fully shaded. When the trees begin to crowd, the plantation should be heavily thinned. The trees remaining should then be pruned to a height of 8 or 10 feet.

Approved:

JAMES WILSON,
Secretary.

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